

PROJECT TITLE : SPOTLESS
PERIOD COVERED : JANUARY - APRIL 1980
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The objective of Project Spotless is to study the smoke chemistry and the smoke quality of cigarettes which are entirely denitrated but otherwise correspond to commercial cigarettes. Two series of Prototypes have been selected for the project, one representing American blend cigarettes and the other air-cured type cigarettes.

As a first step, the blend ingredients were denitrated by extraction with water which results, of course, in a removal of water solubles besides potassium nitrate. The extraction efficiencies for nitrate were generally better than 90 % and reached values of 99 % in certain cases. The extractions were carried out on cut rag in the Rotacell extractor which is situated in the pilot plant.

The loss of potassium nitrate is being compensated for by adding tri-potassium citrate back onto the cut rag.

In all, sixteen cigarettes are being manufactured at present and the full evaluation programme is to start as soon as all the cigarette samples are available. The cigarette codes can be seen in the enclosed tables.

The second step of Project Spotless is to apply NINO-type denitration processes to an analogous set of experimental cigarettes in order to obtain zero-nitrate products containing all water solubles and the original amount of potassium.

Code System

First sign : Ø (zero) for the year 1980

B : for Blend

A : for aircured

SPO : for denitrated

We decided to use two types of blend for the SPOTLESS project:

B Blend (Type MLF)

This blend has the following composition:

B-FC/Partie No. 834	Fluecured (US + ET NO. 2)	31.0 %
B-BU/Partie No. 835	Burley (US + Subst.) + RL	53.7 %
B-OR/Partie No. 836	Oriental	15.3 %
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		100.0 %
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This blend is made according to the MLF Version Atlantic 8222 (1).

A Aircured (Type BRD)

This blend has the following composition :

A-MD/Partie No. 832	Maryland (US + IT) + Oriental + RL	88.0 %
A-CH/Partie No. 833	Swiss (strips)	12.0 %
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		100.0 %
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This blend is made according to the BRD Version Atlantic 8331 (2).

From each blend (B-FC, B-BU, B-OR, A-MD, A-CH) we ordered 500 kg without casing and flavouring, humidified only with water (3) (4).

Prototype cigarettes

B Blend (Type MLF)

ØS-B-TOT	100 kg of blend (B-FC, B-BU, B-OR) untreated manufacture of cigarettes
ØS-B-TOT/SPO	30 kg of blend (B-FC, B-BU, B-OR) denitrated manufacture of cigarettes
ØS-B-FC	20 kg of B-FC, untreated manufacture of cigarettes
ØS-B-BU	20 kg of B-BU, untreated manufacture of cigarettes
ØS-B-OR	20 kg of B-OR, untreated manufacture of cigarettes
ØS-B-FC/SPO	30 kg of B-FC, denitrated manufacture of cigarettes
ØS-B-BU/SPO	30 kg of B-BU, denitrated manufacture of cigarettes
ØS-B-OR/SPO	30 kg of B-OR, denitrated manufacture of cigarettes
ØS-B/SPO/SPO/SPO	blend of ØS-B-FC/SPO denitrated ØS-B-BU/SPO denitrated ØS-B-OR/SPO denitrated

A Aircured (Type BRD)

ØS-A-TOT	100 kg of blend (A-MD, A-CH) untreated manufacture of cigarettes
ØS-A-TOT/SPO	30 kg of blend (A-MD, A-CH), denitrated manufacture of cigarettes
ØS-A-MD	20 kg of A-MD, untreated manufacture of cigarettes
ØS-A-CH	20 kg of A-CH, untreated manufacture of cigarettes
ØS-A-MD/SPO	30 kg of A-MD, denitrated manufacture of cigarettes
ØS-A-CH/SPO	30 kg of A-CH, denitrated manufacture of cigarettes
ØS-A/SPO/SPO	blend of ØS-A-MD/SPO denitrated ØS-A-CH/SPO denitrated